KNITTING AND CROCHET.

TERMS IN CROCHET.

From The weekly Tribinie.

After careful comparison of the most competent foreign authorities and of the patterns sent to this Repartment from domestic sources, it has been de termined to change the code of terms in crochet hitherto used, and make it conform to that most in use among our subscribers. Accordingly, the stitches in all crochet patterns which are hereafter to appear will be the various stitches which are explained below. It will be seen that they are very simple and easily understood. Until the publication of the next Knitting Extra, this explanation will be re-

pext Knitting Extra, this explanation will be republished whenever requested by subscribers:
Single Stitch of S.C.—Put the needle in a stitch
of the work, bring the cotton through in a loop, and
also through the loop on the needle.
Double Craceler of D.C.—Put the needle in a
stitch of the work, bring the cotton through; take
up the cotton again and bring it through the two
loops.

leons.
TREBLE STITCH.—Turn the cotton round the needle, put it in a stitch, bring the cotton through; then take it up and bring it through two loops twice.
Long STITCH OR LONG TREBLE.—Turn the cotton twice round the needle, work as the treble stitch, bringing the cotton through two loops three

stites, bringing the cotton three times.

Extra Long Stitch—Turn the cotton three times round the needle, work as the treble stitch, bringing the cotton through two loops four times.

It is probably not necessary to explain "chain" to anybody, as it is the foundation of all crochet and is simply a straight series of loops, each drawn with the hook through the preceding one.

In the Extra just published the old terms may be adhered to.

VANDYKE BORDER (Crochet).

This handsome lace is crocheted short-way-that is to say, a scallop or Vandyke at a time, instead of on a chain made the required length. Short-way edgings are more interesting to most workers than long-way ones, as the pattern grows more quickly under the fingers. For heavy furniture lace in this pattern use 12-thread crochet cotton and needle No 1. For fine lace use Boar's-hend cotton No. 24 and

cedle No. 4. Begin with a chain of 25 stitches. Begin with a chain of 20 stitches.

1st Row—Turn; miss the last 5 chain and work 1
D.C.; then work 3 chain, miss 1, and 1 D.C. 9 times;
turn back on the other side, leaving 1 chain.

2nd Row—Make 1 chain; miss 2; 1 D. C. in
the last 3 chain of the first row; then 3 chain,
miss 3, and 1 D. C. in the 3 chain of the first row 9
times; turn back.

the last 3 chain of the first row; then 3 chain of the first row 9 times; turn back.

3rd Row-Make 1 chain; miss 2; 1 D. C. in the last 3 chain; 3 chain, miss 3 and 1 D. C. in the 3 chain of the last row 8 times; turn back.

Repeat the last row 8 times; turn back.

Repeat the last row 8 times; turn back.

Repeat the last row for 7 rows more, working the "3 chain, miss 3, and 1 D. C.," once less each row; then work 18 single down the side of the Vandyke to the first row even with the foundation chain; then make 25 chain and repeat from the first Vandyke until sufficient is made.

Last Row-Commence in the 1 chain worked at the beginning of the 2d row of the 1st Vandyke, and up the side work 3 chain, miss 1 and 1 D. C. 8 times, 3 chain miss 1, 1 D. C. in the 3 chain of the last row of the Vandyke; and in the same 3 chain work 5 chain, 1 D. C., 7 chain, 1 D. C., 9 chain, 1

D. C., 7 chain, 1 D. C., 5 chain, 1 D. C., in all 6 D. C. in the 3 chain. Then work down the other side of the Vandyke 3 chain, miss 1, and 1 D. C., 9 times; 1 chain miss 5 between the Vandykes, 1 D. C. on the 1 chain at the beginning of the 2d row of the next Vandyke. Repeat along the Vandykes.

SHELL STITCH FOR CHILD'S STOCKING. P. A. S. very kindly sends directions for a shell stitch pattern for a stocking, as follows: "Cast on each needle any number of stitches tha

is a multiple of 14, as 28, 42, 56.

It may perhaps simplify the directions if I say new that the following order of knitting produces rows of shells bounded on each side by a row of seamed stitches. These shells in their widest part, the middle, include 9 stitches, and at either end

ne stitch.

1st round; Knit 9 stitches plain. This is the foun-1st round: Knit 9 stitches plain. This is the roundation for the first shell which can only be a half one, because of the necessity of commencing in the middle of it. Every alternate shell at the beginning of the stecking will be similarly incomplete. Scam 2, knit 1. This last is the foundation stitch for the shell, and it must be remembered that this is to be the centre stitch of the shelland that the increasing shall each time take place on either side of this stitch. Indeed, if properly knitted, this stitch can be traced continuously through the row of shells from top to heel. Scam 2, knit 9, and proceed as before.

before.

2d round: The 1st shell and every alternate one now must begin to decrease. Therefore, slip 1st stitch, knit 2d, and slip 1st over it, leaving only 8 stitches before the two seamed ones. Knit these 8,

now must begin to decrease. Therefore, slip 1st stitch, knit 2d, and slip 1st over it, leaving only 8 stitches before the two seamed ones. Knit these 8, seam 2, and as the second shell and every alternate one must now begin to increase, leave the thread in front of the needle and knit the next stitch. Throw the thread twice about the needle from front to back, and seam in under the next two stitches. This shell has now increased from one to three stitches, because a loop has been formed either side the foundation stitch.

Now slin one again, knit one, and slip the first over the second, as already stated for the first shell.

3d round same as 1st, only the second shell on each needle and every alternate one will have 3 stitches to knit instead of 1. The first shell and every alternate one will decrease one as usual.

4th round same as 2d, only that in the second shell and every alternate one, after the centre stitch is knitted the thread useds to be brought only in front of the needle, and not twice about it as when this centre stitch lies next the scaming stitches.

Thus the first shell, and every alternate one around, decreases one sittch every round. The second shell, and every alternate one increases two every alternate round. When each respective shell has reached its maximum of inne stitches or increase, according to the process given." The writer adds:

"I hope I have made this intelligible to those desirous of patterns for fancy stockings. If not, I shall be glad to try to make myself better moderstood. The pattern is lovely enough to warrant quite an amount of trouble."

NARROW EDGING (Crochet).

The first Vandyke of this pretty edging is made thus: Make a chain of 15 stitches. First or centre row: Ture, miss the last 2 chain, and work 2 D.C. 2 treble; 2 long; turn on the wrong side leaving 7

2d row: Make 6 chain; miss 3; 1 D.C. on the centre row; 4 chain; miss 3; 1 D.C. on the centre row; 4 chain; miss 2; 1 D.C. in the point of the centre row; 5 chain, 1 D.C. in the same stitch of the point as before; 4 chain, miss 2, 1 D.C. on the other side of the centre row; 4 chain, turn on the right side, join to the 5th stitch of the 7 chain that

drow: Miss 1 and in the last 4 chain work 1 2.. 1 chain, 2 treble, 4 chain, 2 treble, 1 chain and b.C.

1 D.C. 1 chain, 2 treble, 4 chain, 2 treble, 1 chain and 1 D.C.

These D. C. and treble stitches are all to be worked in the same loop of chain. Repeat 4 times more in each loop of chain.

For the second Vandyke work as the 1st to the end of the 2d row; then 3d Row-Miss 1, and in the last 4 chain, work 1 D. C., 1 chain, 2 treble, 2 chain; join to the last 4 chain of the 1st Vandyke; 2 chain and in the same 4 chain as before, work 2 treble, 1 chain, 1 D. C. Then "miss 1, and in the next 4 chain, work 1 D. C., 1 chain, 2 treble, 4 chain, 2 treble, 1 chain, 1 D. C. Repeat from "3 times more. Work on as the 2d Vandyke, until your edging is of sufficient length.

CLOVER-LEAF EDGING.

This is a charming little crocheted edging, and the hearty thanks of THE TRIBUNE are herewith offered to Mrs. F. M. Gideon, who presents it as follows: With thread and an appropriately fine crochet

hook make a chain the required length of the edg ing. Turn, miss 1, 3 long treble in three successive stitches of the foundation: 7 chain, turn, 1 leng treble in the third chain; this forms a loop. Turn this over and work 4 chain. I long treble in the this over and work 4 chain. I long treble in the loop, 3 chain, 1 long treble in the same loop, 4 chain, 1 D. C. in the same loop in the last chain such a loop. This makes 4 loops.

Turn the work over begin in the last loop and make 1 D. C. 1 treble, 3 long treble, join this (S. C.) to the first long treble of foundation. Then 3 long treble, 1 treble, 1 D. C. in the same loop. This completes the first leaf or lobe.

treble, 1 treble, 1 D. C. in the same loop. This completes the first leaf or lobe.

In the next make 1 D. C., 1 treble, 6 long treble, 1 treble, 1 D. C. Mase in the third same as second.

In the fourth 5 D. C. on the next 3 chain, 6 D. C. This completes the leaf and stem.

Then work 6 long frebles on the foundation chain Begin with 7 chain, etc., as before.

The second leaf is made same as first and is joined as follows: The middle of first leaf or lobe (S. C.) to third long treble last made on foundation chain, as given in the preceding. The centre of second lobe is joined between the third and tourth of the preceding leaf.

preceding leaf.

This department has altered Mrs. Gideon's "treble" and "half-treble" to "long treble" and "treble," as no such term as "half-treble" is known to it. If these are not the stitches she reant, will she knudy explain? The sample of the edging she sends is so exquisitely pretty that subscribers are advised to spend some pains over the pattern; they cannot help but be pleased with it. The conductors of this department have not thus far had leasure to work it out.

SCRAP-BAG.

BEIOCHE STITCH .- MIS. G. F. Hutchins asks that THE TRIBUNE shall reprint the explanation of this Stitch. This cannot conveniently be done at pres-

ent; but she will find the explanation, together with the best knitting and crochet patterns, bitherto printed in this paper, in "The Woman's Extra," which can now be obtained by mail from this office for the trifling sum of 10 cents. Her stamps will be preserved and upon receipt of the remainder "The Extra" will be sent her.

NORMANDY LACE .- One of the fair readers of Normandy Lack.—One of the fair readers of this department relates her experience in correcting the mistakes in this lace given a few weeks ago. She says: "The first four rows are correct; after that it was a' a muddle." By patience and perseverance I nuravelled the puzzle and have succeeded in obtaining a very delicate filmy lace by using No. 90 linen thread and fine needles, knitting loosely. I will write the direction for those rows in which the mistakes occur.

will write the direction for those rows in which the mistakes occur.

Fifth Row-Four plain at beginning of row should read 5 plain. The remainder of row correct. Sixth row correct.

Seventh Row-Kait 5, make 1, knit 1, knit 2 together, knit 1, make 1, knit 2 together, knit 3, knit 2 together, make 1, knit 1, knit 2 together, make 1, knit 1, make 1, knit 2 together, Eighth-Cast off 1, knit 1, make 1, knit 2 together, knit 1, make 1, knit 6.

Ninth-Knit 7, make 1, 2 together, knit 1, make 1, knit 1, shp 1, knit 2 together, passed shiped stitch over, make 1, knit 1, 2 together, knit 1, 2 together.

together. Tenth-Knit 2, make 1, 2 together. knit 4, knit 2

tenth-Knit 2, make 1, 2 together, knit 4, knit 2 together, make 1, knit 8. Eleventh-Knit 9, make 1, 2 together, 2 together, 2 together, make 1, knit 3. Twelfth-Cast off 2, knit 1, make 1, knit 3 to-gether, make 1, knit 10.

gether, make 1, knit 10.

Oak-Leaf Lacu.—M. J. Richards sava: "L. M. T. will find the mistakes in Mrs. Bichards's oak-leaf lace in first row. Try it this way: Throw thread over or put needle under at the beginning, and knit 2 together, throw thread under, knit 2 together, throw thread over twice, knit 2 together, ver twice, knit 2 together. You will remember you are to have only 2 hop stitches to each eyelet on scalloped edge as you knit back on second row. If there are 3 you must throw thread under and once around and knit 2 together straight, then preced according to previous directions."

HONEY-COMB LACE .- Mrs. R. M. writes that she HONRY-COMB LACK.—Mrs. R. M. writes that she wishes to correct a naist ke which she finds she had made in her charming honey-comb lace. Those readers who have appealed to this department for help in solving the problem of this lace will be glad to receive the explanation which its contributor sends. "Those," she says, "who have tried to make the lace and failed will notice in the second row, after 'kint 2 plain' is the ending of the second row. 'Slip first stitch as in purting' is the beginning of the third row. The last stitches on the third row are 'kint 11 plain.' In the fourth row instead of '7 plain' kout 8 plain. The mistake was in numbering the rows; instead of three rows, there are four. Will readers report success and oblige the writer." the writer."

MY CIG IRETTE.

From The Harrard Crimson From The Harterit Crimson.

My cigarette! The anniest
That charms afar norest and sorrow;
The magic wand that, tar beyond
To-day, can conjure up to-tomorrow—
Like love's desire, thy crown of fire
So softly with the twibabt blending.
And, ah! messems, a poet's dreams
Are in thy wreaths of smoke ascending.

My cigarette! Can I forget
How Kate and I, in sunny weather,
Sat in the shade the elm trees made,
And rolled the fragrant weed together! I, at her side, teatified
To hold and guide her fingers willing;
She, rolling slow the paper's snow,
Putting my heart in with the ulling!

My cigarette! I see her yet—
The white smoke from her red lips curling.
Her dreaming eyes, her soft raplies,
Her gentle sighs, and laughter purling!
Ah! damty roll, whose parting son!
Ebbs out in many a snowy billow,
I, too, would burn, if I might earn
Thom her lips, so sweet a milow!

Upon her lips, so sweet a pillow Ah, cigarette! The gay coquette
Has long forgot the flames she lighted,
And you and I unthinking by
Alike are thrown, alike are slighted.
The darkness gathers fast without, The darkness gathers fast without, A rain-drop on my window plashes; My eigarette and heart are out, And mucht is left me but their ashes!

PEINTERS ERRORS

From The Globe (London.)

From The Globe (London.)

From a collection of what are termed first-proofs, or slips containing the mistakes of the newspaper compositor before they come under the notice of the reviser, we call a few which show the ludicrons nature of printers' errors:

"In the same speech Mr. Gladstone dwelt on the right which England had earned by expenditure of blood and treasure to interfere in Turkish provinces; but now, with a leopard and a bound, he has formulated a plan for making the Christian provinces practically autonomous." The conversion of a leap and a bound into a leopard and a bound must have taxed the ingenuity of the composer, who must have set up the next paragraph, in which we read that "the Christian religion strictly enjoins mahogany," instead of "monogamy."

Referring to one of Mr. E. A. Freeman's queer

keferring to one of Mr. E. A. Freeman's queer political notions, a writer is made accountable for saying "Coming as it does from one who has gained real distinction as a barbarian," when it is obvious the wrote "historian." In the same article we read "It is almost meredible that in spite of these facts It is almost incredible that in spite of these facts wex-Fremier should have ventured to tell even a six snob that the air of the Government is, etc." ere, of course, the word should be "mob," white hen Mr. Gladstone is represented as being described y one of his rdmirers as "the spout of the Liberal arty," we should understand "spirit" to be in-

we proceed to quote, italicising the error and quoting the right word within bracacts. "The danger of mistaking the poisonous forms of mush-room for those which are not only edible, but wholesome and nutritions, stands in the way of a more general acceptance of the fagers [funcus] as an article of food."

On their return,

who could have a compared to the forgers [forgus] as an article of food."

"On their return, they proceeded to make bread with the recently purchased flour, and, having partaken of it, the pair at once became delicious [delitions."]

"In August, 1865, when Mr. Wigan was lessee of the Olympic Theatre, he brought out there a piece called "Prince Carmiral by a Man [Camaraizaman."]

The compositor is a great master of surprise. He is ready to announce in one sentence that "if the truth [1 urk.] cannot hold Constantinople it will fall to the lot of some Aryan Power to do so," and in the next proceeds to explain that "the evilusation of the nineteenth century is a country organ [purely Aryan] development." In announcing that the meeting of the picked athletes of England and Ireland took place, he is auxious to term them pickled athleties." He is auxious to tell us that since St. Albans has been converted into an eniscopal see, steps have been taken to obtain for it the dignity of deity [a city]; he is not abashed when he puts into type the announcement that "a waterman rowing by at the time of the occurrence was knocked down, and one of his cars [oars] was carried at least thirty yards away"; or that "Archdeacon Denison presented to Convocation too grave a mind [two gravamina]"; or that "there was no longer a chairman [Chinaman] in Kashgar in 1867."

There are a few others of his exploits with which we shall conclude. "The Porte undertook not to

mina]"; or that "there was no longer a chairman [Chinaman] in Kashgar in 1867."

There are a few others of his exploits with which we shall conclude. "The Porte undertook not to establish a fictitious blockhead" [blockade]. "The President to-day delivered his triangular [inaugural] address." "With him patriotism has ceased to be a visitor "[virtue]. "The action of the salt water affects the steel so rapidly that a pocket-knife, after two or three days' immersion, is miscrable "[unserviceable]. "He challenged the Government to state their intentions as to whether they meant to annex territory, or to support some ruler whose power would depend on British banquets" [bayonets]. "During a gale yesterday morning a fishing smack was weretched lywiceked] at the mouth of the Humber."

With the following exquisite bit of dramatic criti-

With the following exquisite bit of dramatic criti-ism we leave the subject: "The manner in which be gathered in her embrace the dving head and cism we leave the subject: The manner in which she gathered in her embrace the dying head, and approached her lips to those of her lover, to shrink back with fear and horror from the smell of the person [poison] and the presence of death, was admirable."

A STORY OF HENRY CLAY.

From The Boston Traveller.

When Henry Clay ran, for the first time, for Congress, he was billed to address an assembly in the open air. A vast crowd had convened to hear the young orator, and conspicuous above all rose the tail form of Jim Burnim, a rough, with an unenviable reputation and a great personal enemy of Clay's, owing to repeated defeats sustained by him from Clay in his political aspirations. When Clay had commenced his address Burnim placed himself directly opposite him in the crowd and annoyed the speaker continually by interruptions and personal remarks, but chiefly by hissing every good point Clay produced.

speaker continuary of the start and the control of the control of

SCIENCE FOR THE PEOPLE.

AN ELECTRIC LOG An electric log, devised by M. Fieuriais, has been fully tested, with satisfactory results, on board the French frigate La Magicienne, in a board the French Irigate La Magnemer. It recent long cruise. A description is given in La Nature. A four-armed cross-piece, with cups at the end of the arms all directed similarly in relation to the arms, is supported on a vertical axis, so as to rotate in being pulled larly in relation to the arms, is supposed a vertical axis, so as to rotate in being pulled through the water, and proportionately to the rate at which this is done. The "mill" is of bronze, but to diminish friction the axis is supported in small blocks of gnaiacum, which are at the ends of the arms of a bronze fork, presenting little resistance to the water. This at the ends of the arms of a bronze fork, presenting little resistance to the water. This fork is attached, through a short chain, to the log rope, one strand of which is removed to make place for the electric cable (a Menier military cable, with seven wires). The wire of the cable passes from the negative pole of a battery on board ship to the log, while the "earth wire" passes from the positive pole into an electric bell (without trembler); then, by a contact-breaker, on to a metallic bar communicating with the ship's sheathing. The municating with the ship's sheathing. The rotating axis of the log (which has a double rotating axis of the log (which has a doubte cylinder of wood and copper on it) has the resistance of a very elastic copper slip to overcome, and the arrangement is such that the bell gives one stroke for each turn. A sand-glass is also used. To determine the ship's very the stroke for each turn. locity at a given moment (1) the circuit is closed; (2) the sand-glass is turned at one stroke of the bell, while one counts nothing, one, two, three, four, etc.; (3) the number is noted at which the sand-glass stops; and if e.g., this is 75, the velocity sought is seven knots and five-teaths. Several of M. Fleuriais's logs are now used in the ships of the French Navy.

THE TRAPEZIUM IN ORION.

The discussion as to whether there is a eventh star in the trapez.nm of Orion (Theta Orionis) appears to be set at rest by a letter of Professor Holden in the current number of Nature. The 26-inch retractor at Washington of Professor Holden's in the current number of Nature. The 26-inch refractor at Washington shows that two other stars are equally as near one of the large stars of the trapezum as the seventh, but that within the trapezum itself there is no trace of a star. Mr. Burnham's experience with the 18½-inch refractor at Chicago is to the same effect. In a note to his last catalogue of double stars Mr. Burnham says: "Several observers have seen or believe they have seen other minute stars in the trapezium, most of them using comparatively small apertures. At various times and under very favorable conditions, the interior of the trapezium and the vicinity of the principal stars "Lave been carefully examined. There was not the slightest suspicion of any additional star. If the sixth star itself had been double with a distance of 1".0, it could not have been overlooked. I have very little faith in the real existence of these supposed haith in the real existence of these supposed stars after the failure of this and other large refractors to show them." And Mr. Burnham considers it whelly improbable that they could all be variable in such a manner as to render them at all times myisible during the last tew years. Telescopes were not so perfect fifty years ago as they are now, and the three fifty years ago as they are now, and the three stars within the trapezium recorded by De Vico in 1830, and the star near the fifth, detected by Strave which Gruithuisen claimed to have discovered about the same time, and which he says Schwabe had also seen with a six-feet Frauenhofer, may be set down as optical illusions. optical illusions.

PELLET'S COPYING PROCESS.

Engineers and others often require some rapid and easy method of copying large and rapid and easy method of copying large and complex plans. This may be done by a process invented by the well-known French chemist, Pellet. The original drawing, or plan, is placed in an ordinary printing frame, and behind it is placed a corresponding sheet of the sensitive paper. This is merely a stout paper, coated with a mixture of perchloride of iron, an easily exydizable organic matter. The printing frame being now exposed to light for a short-time (one minute in sanshine being often sufficient), the persult of iron becomes reduced to the state of protosal wherever the sensitive paper the state of protosalt wherever the sensitive paper is unprotected by the opaque lines of the original tracing. After removal from the printing frame, the exposed sheet is immersed in a strong solution of potassium ferrocyamide, and this substance, reacting with the protosity of tree proposition.

Professors Houston and Thompson describe in The Journal of the Franklin Institute a sys-em of storing up electricity which they conder to be free from the disadvantages of other systems. They use a cuturated solu-tion of sulphate of zinc to a suitable vessel, tion of sulphate of zinc in a suitable vessel, having at the bottom a copper plate, to which an insulated wire is fastened. At or near the top of the vessel and immersed in the solution is placed a second copper plate, or one of hard caroon, or metal inchanged by contact with the solution and less positive than metallic zinc. This is also connected with a wire. A current from a dynamo-electric machine is sent in the direction from the lower to the upper plate, the result being deposition of metallic zinc on the upper position of metallic zine on the upper plate, and the formation of a dense solution of sulphate of copper overlying the under plate. The cell, after charging, constitutes a gravity cell, and continues a source of electricity till reconversion of all the cop-per into sulphate of zne, with deposition of copper on the lower plate and removal of zinc from the upper. The cells, in charging, can be arranged in multiple are, or in series, and differently from that in discharging, according to the object. The authors believe according to the object. The authors believe it possible to store up and recover 50 per cent or more of the effective work of the dynamo-electric machine, or 25 per cent of the original power. Thus, they claim, would be much superior to the use of zine and other materials in the ordinary battery in the production of current. production of current.

PROTECTION FROM RUST.

Dr. Truemann has been discussing in a late number of the Deutsche Industric Zeitung the various means of protecting iron from rust. His survey of the field results in the following conclusions: (1) Universal means of protection, i. e., keeping iron effectively and durably from rust made all commissioners. durably from rust, under all circumstances; there are none at present; the problem is still to be solved. It must be doubted whether Barff's process r an advance in this direction; but, beyond all doubt, inventors who hold up their methods as under all circumstances equally operative, are like charlatans who profess to cure all kinds of disease with one med fess to cure all kinds of disease with one med-icine. (2) The success of the protective methods at present available depends, above all, on a suitable selection according to the cir-cumstances to be dealt with. A means of protection proved to give good results against atmospheric influences is by no means, there-fore, adapted for preserving iron against the section of fresh or sea water and conversely. action of fresh or sea water, and conversely.

(3) In use of the same means of protection under like conditions in different cases, the greater or less efficiency depends as well on the good quality of the materials used as on the careful execution of the work. The most common method of protective compositions especially requires careful supervision in this respect.

SILK CULTURE IN PENNSYLVANIA.

Dr. Samuel Chamberlaine urges in Journal of the Franklin Institute the de desira bility of silk culture in the United States. There is, he says, in this country an established business in silk manufacturing, which employs at least 200 firms and some 20,000 operatives, who use up a million pounds of raw silk every year. This silk now costs \$5,000,000, an amount which will soon be doubled, and even quadrupled, in the near future. Dr. Chamberlaine thinks all this raw

"cottage culture." In this way, by carefully nursing the new industry and avoiding the mad speculation of 1840, he thinks the United States would become a silk growing as well as a silk manufacturing country.

NEW BUOYANT ROCKET.

A new bnovant life-saving rocket is described by The London Engineer, as manufactured at the Woolwich arsenal. Substantially it is the Bexer recket in a coating of cork. This coating enables the rocket to float on the water with the rope attached after it has been discharged over the sea. The rocket is capable of carrying a I inch or 1½ inch coir line a distance of more than a hundred varia, and ble of carrying a I inch or 14 inch coff line a distance of more than a hundred yards, and will then have buoyancy enough to support itself with the line. In case the rocket is badly aimed or should fall short, it is claimed that the line can always be recovered and that in many cases the rocket may be picked up by the crew of a wrecked vessel with a boat hook NOVEL MODE OF BIRD-CATCHING.

NOVEL MODE OF BIRD-CATCHING.

A new application of the Ruhmkorff coil, says Les Mondes, has been made in the neighborhood of Marseilles. Instead of using bird lime on the trees which are frequented by birds of passage, a copper wire is wound around the trunk and a decoy attached to a neighboring staff. When the flock has been attracted by the decoy a shock is sent by the commutator, and the birds are more surely stunned than by a rifle. Experiments of a similar kind have also been made by M. Dalmas upon the vines of his country seat. The powerful electric shocks are reported to have

powerful electric shocks are reported to have destroyed the parasites and their eggs. WOOD CARVING.

Wood carving is an industry which is carried to considerable perfection among the Germans. It is fostered by the establishment of schools for carving, particularly in districts where the wood used for the work—the Spanish walnut, the finest and best walnut. the Germans bave—is pientiful. Eighty of these carving schools exist at the present time in Germany, and eighty in Würtemburg, but so much importance is attached to the results which have flowed or are expected to flow from these institutions that the number of the schools in Germany is to be increased to 200.

PHOTOGRAPHIC PRINTING PROCESS.

A new photographic process has been discovered in Japan. One of the substances employed in the manufacture of Japanese lacquer has the property of becoming almost as hard as stone under the action of light. A slab covered with this material and duly exposed behind a pho-tographic negative for twelve hours is scraped when the softer parts are rubbed away, and the hardened portions stand out in a low re-lief. The slab can then be used as a block for printing.

HUMAN VIVISECTION.

In The Spectator for September 28 there appeared a review of a book entitled "Curassines of Penal Law," by Signor Alfonso Andreozzi; in The Juli-Firisectionist for October 4, at page 557, the editor can F.R.U.S. and M.D.) reproduces this review, undes the heading of "Science and its 'Necessities," "The truly horrible fact," says the reviewer, "of which Signor Andreozzi may be called the discoverer, is that thirteen men and women condensed to death for various crimes by the Florentine judges were, by the order of Cosmo I., Duke of Tuscany, delivered over alive, to be anatomized in the medical schools of Pisa. The anatomized in the with the aforesand Cosmo, who kindiy obliged them with the aforesand Cosmo, who kindiy obliged them with the gift of a living man or woman every year or two as required. These are some of the cases quoted by Professor Andreozzi from the register in the 'Archivo Criminale':

"1, 15 Jan., 1545.—Santa di Mariotto Tarchi di Mugello, wife of Bastiano Lucchese, condemned to be beheaded for infanticide. Under the sentence is written, 'Diota Santa, de moute Exection Duco, fant missa Pisis, de ca pen doctores firste instomia' (was sent to Pisa to be made an anatomy—to be vivisected—by the doctors there). No notice to be found of any execution of the woman, such as would have appeared had she been put to de ath before she was sent to Pisa.

"2, 14 Dec., 1547.—Gantio Mancim Sanese, condemned for robbery and other offences. Ducatur Pisas, pro faciendo de co notomia isent to Pisa to be vivise cted."

"3, 1 Sept., 1551.—Maddalena "the end In The Spectator for September 28 there appeared

3. I Sept., 1551,-Maddalena * * the end

of the norrible extract is, 'Went to I'sa to be made

"What became of the poer creatures 'consigned to the anatomist to make an ahatomy of them the imagination stricks from picturing. There could be no use at that time of any anaesthetic, either real er, like curare, fictitious. The names of Faliopus and Vesains occurring in connection with these human viviscitions suggest that as the circulation of the heart's action then interested Italian scientists, it is probable that the victum's breasts were opened, and that the learned industries prived as long and as far as they could into throbbing muscle and bleeding arreay to death stopped at last their interesting study. Happy for the victims it so deadly an operation were the first fried upon them, and that they were not subjected to a score of ingenious torments before that comp de grace!"

LIVE ANIMALS ON THE STAGE.

From Maemillan's Magazine.

From Macmillan's Magazine.

To Meyerbeer, or perhaps to Meyerbeer and Seribe conjointly, belongs the doubtful honor of having introduced live horses in the musical drama. But long before Marguerite de Valois rode on to the stage in the opera of "Les Huguenots," a real horse had, in 1682, appeared before an ordinary theatrical audience in the character of Pegasia. As poets, according to an inhuman creed, make better verses for being kept without money, so it was held that the unhappy Pegasia ought, until the end of his performance, to be deprived of oats. The sensation of hinger gave, it is said, "a certain ardor "to the movements of the poetic courser; and the sound of corn shakenin a steve had the effect of making the proud but famished steed neigh, snort and stamp in a style thought worthy of Pegasia himself.

The white horse which figured in the first representation of "Les Huguenots," at our Royal Itairu Opera, without being precisely a Pegasia, had eften served as back to one of the greatest of English writers. It was, or had been, the property of Mr. Thackeray, and answered to the name of "Becky Sharp."

At a Paris theatre an attempt was once made to

At a Paris theatre an attempt was once made to give reality to a pastoral seems by bringing upon the stage a flock of live sheep, which, however, trightened by the lights and by the clamor of the audience, lost no time in going astray, so that at the second representation it was found necessary to replace the live sheep by pasteboard imitations.

FROM KITCHEN TO THRONE.

From Land and Water.

From Land and Water.

We read of peculiar things happening in life, and a wise man should be surprised at nothing. In like manner a comely and modest woman has often a fortune in her face if she knows how beauty should become her. To wit; During the troubles in the reign of King Charles L. a country girl came up to London in search of a place as servant-maid; but not succeeding, she applied herself to carrying out beer from a brewhouse, and was one of those then called tub-women. The brewer, observing a well-looking girl in this low occupation, took her into his family as a servant, and after a while, she behaving with so much prudence and decorum, he married her; he died when she was yet a young woman and leif her a large forume. The business of the brewery was dropped, and the young woman mad leif her a large forume. The business of the brewery was dropped, and the young woman mad leif her a large forume. The business of the weery was dropped, and the young woman was recommended to Mr. Hyde as a gentleman of skill in the law to settle her affairs. Hyde (who was afterwards the great Earl of Ctarendon), finding the widow's fortune very considerable, married her. Of this marriage there was no other issue than a daughter, who was afterwards the wife of James II., and mother of Mary and Anne, Queens of England.

SEYOND EXPROTATION .- Pat: " Well, Dan, and have ye heard the news-have ye heard that Rory future. Dr. Chamberlaine thinks all this raw material might readily be produced in this country, and a large part in Pennsylvania. He urges the establishment of a fostering central society at Philadelphia, which should encourage the raising and reeling of silk as a sicad of me going to his."—[Fun. the miller's dead ?" Dan: "Rory the miller is it

BY THE STREAM. From The Sunday Magazine.

Sweet tangled banks, where excepted daisies grow
And scarlet poppies gleam;

Sweet changing lights, that ever come and go
Upon the quiet stream!

Once more I see the flash of splendid wings, As dragon flies flit by: Once more for me the small sedge-warbler sings Beneath a sapphire sky.

Once more I feel the simple, fresh content
I found in stream and soil
When golden Summers slowly came and went,
And mine was all their spoil.

I find amid the honeysuckle flowers, And shy forget-me-not. Old boyish memories of lonely hours Passed in, this silent spot.

Oh, God of nature, how thy kindness keeps Some changeless things on earth! And he who roams far off, and toils and weeps, Comes home to learn their worth. Gay visions vanish, worldly schemes may fall, Hope proves an idle dream,
But still the blossoms flourish, red and pale,
Beside my native stream.

RELIGIOUS INTELLIGENCE. CARDINAL NEWMAN ON CATHOLICISM .- At

he recent annual reunion of Birminghan latholics, over which Cardinal Newman presided, the Cardinal delivered an address on the changes which in thirty years have taken place in the toleration shown by Protestants toward Catholies in England. Thirty years ago, Catholies had become very unpopular, ie said, through the whole country, owing to a general fancy that "in some way or other, our authorities at Rome were conspiring together against the religious liberties of Eng-land." The appointment of an English Car-dinal and of English bishops was looked upon as a great insult, since a Christian hierarchy was already established in the country, and a new one seemed to be intended to take its place. The causes of the change in sentiment, he said, were many. First, the opposition was "too violent, too unjust, sometimes too extravagant to last"—another evidence of the law that reaction of mind follows on great excitement. A second reason was the knowledge that came to the Nation from experience as time went on, that the alarm had after all been unnecessary, and that there had been no reason for the grave prophecies of danger, and the panic, fright, and stringent measures on the part of the executive and the country. The third cause which he indicated was the conversions, of which there have been not a conversions, of which there have been not a few. England is not in the eyes of Catholics a heathen country, needing conversion as a heathen country needs it; but it is a country which knows only half the Gospel, and the mission of Catholics is to make them know whole of it. Fifty years ago the Catholics in England were an unknown sect, now there is hardly a family in the kingdom but has relatives or associates of that religion. Car relatives or associates of that religion. Cardinal Newman cites as another cause "the great figure presented to the whole world by the late Pope Pius IX., and its effect in favor of Catholies." The whole world felt that he had been shamefully used, and the injustice created a wide interest in him. The magic of his presence was such as to "dissipate and utterly destroy the fogout of which the image of a Pope looms to the ordinary Englishman." Those were overcome who were least likely to be overcome by his uncompromising faith, his courage, his wit, his naturalness, his true-eloquence, his playfalness as it was used to temper severity, and the as it was used to temper severity, and the graceful intermingling in him of the human and the divine. "How could they think ill of and the divine. How could they think ill of him or of his children when his very look and voice were so ethical, so eloquent, so persun-sive?"

MGR. CAPEL'S HOUSEHOLD GOODS.—The fur-MGR. CAPEL'S HOUSEHOLD GOODS.—The fur-niture and other personal effects of Monsignor Capel, including the contents of his late resi-dence, the quiet and shaded Cedar-Villa, Ken-sington, were advertised to be sold by anothen in London ten days ago. The catalogue com-prised 300 lots. Among the articles were in-cluded valuable religious pictures, a cunious refiquary, the fittings of a private chapel, statues, candlesticks, altar hangings, etc., a set of handsome state chairs, carved and gift set of handsome state chairs, carried and gilt, from the collection of Cardinal Fiche, several objects of interest from the Holy Land and other parts of the East, thirty dozen of wine anide, and this substance, reacting with the persalt of iron remaining on those parts of the paper protected by the opaque lines, gives rise to the production of Prussian bine, while the general ground of the paper remains white. It is now merely necessary to wash the print, and to soak it in dilute hydrochleric acid, in order to remove superflous matter, a final washing being, of course, necessary to remove the free acid. The old ferroprussiate process, which gives white lines on a bine ground, found interfavor with engineers, as the exposure required is long, and it is naturally impossible to that or color the prints. Neither of these objections applies to Pellet's process.

SIORING UP ELECTRICHY.

of the norrible extract is, 'Went to Pesa to be made an anatomy.'

"4. 12 Dec., 1552.—A man named Zuccheria, and a variety of miscellaneous articles. The school which Capel has conducted to Pisa 'per la notomia.'

"5. 22 Dec., 1552.—Live of Paole, condemned to Pisa in object. So, Large of the East, thirty dezen of wine anatomy.'

"5. 22 Dec., 1552.—Live of Paole, condemned to Pisa in object. So, Large of the East, thirty dezen of wine anatomy.'

"5. 22 Dec., 1552.—Live of Paole, condemned to Pisa in object. So, Large of the East, thirty dezen of wine anatomy.'

"5. 22 Dec., 1552.—Live of Paole, condemned to Pisa in object. So, Large of the East, thirty dezen of wine anatomy. Was sent to Pisa in object. So, Large of the East, thirty dezen of wine anatomy. The school which Capel has conducted at Cedar-Villa for five or six years has been broken up and the site will probably be used to be banged for notomia."

"6. 12 Dec., 1552.—Live of Paole, condemned to Pisa in object. So, Large of the East, thirty dezen of wine anatomy. Was sent to Pisa object. So, Large of the East, thirty dezen of wine anatomy. The school and the five school and the site will probably be used to be banged for notomy. Was sent to Pisa object. So, Large of the East, thirty dezen of wine anatomy. The school and the school and the school and the sch

have thus historical evidence that them, made in dozen from the Eventive fewer ment of Tustical regarding the Eventive fewer ment of Tustical manner and women, regarding these condemned criminals as (in the words of Professor Huxley as applied to dogs) 'valuable for the purposes of respect to dogs) 'valuable for the purposes of respective funds, and in whose case the jury former to do the purpose of respective funds, and in whose case the jury former to agree, has been remanded to just to do the purpose of the on trial in Boston for embezzlement of the society's funds, and in whose case the jury failed to agree, has been remanded to juil to await a new trial. It is said that the jury stood seven to five on their final count. The charge is that Mr. Demond embezzled various aims between March, 1876 and, May 1878, which amounted in all to \$55,000. There was not much conflict of testimony at the trial, nor was the fact dealed that some \$56,000 of the society's funds had disappeared through Mr. Demond's management. The case turned on the point whether he intended to convert the money to his own use use or that of others. The defence aimed to show that all the missing funds went into the treasury of the society, and not into Mr. Demond's private purse, and that they went out in legitimate transactions designed to be for the benefit of the society, though the results proved disastrous. Mr. Demond gave his testimony in his own behalf with clearness and animation, it is said, and certainly not with the air of a man who had by design been the means of a heavy loss to the society. His wife, son and daughter were in the court-room with him, and aroused much sympathy.

PASTORS WITHOUT WORK .- In this country there are 1,136 Congregational ministers with out a charge, and the serious question what to do with them, and why are things thus, are forcing themselves into earnest discussions. It is estimated that about 250 of these muisters are not in positions to accept any charge, and that some of them, perhaps, do not desire one; but after all such allowance is made there remain 900 ministers still unemployed. Statisthes indicate, as an offset, that there are 662 churches which have no pastors, about sixty of churches which have no pastors, about sixty of which are unable, it is supposed, to support one—showing 600 pastorless churches able to support a pastor if they would, and 900 churchless pastors willing to take charge of a church if they only had a chance. Evidently there is fault somewhere. The Congregationalist has published letters from several of the pastors without charges, some of whom have not only failed to get a church, but are unable to support themselves in another way. One says he would saw wood or do anything to earn a living, while the income of another is given as \$3 a week—all this after years of study in colleges and seminaries to fit them for ministerial work. for ministerial work.

DOCUMENTS PURCHASED BY THE POPE.-In

Cathedral, and from this cause he will be specially missed in England.

Dr. Pusey has lost his only son, Philip Edward Pusey, who published several years ago a beautiful edition of the works of St. Cyril, that is looked upon as his monument. In collating the manuscripts of St. Cyril he became a familiar visitor to the libraries of Moscow and Madrid, and the monasteries of Mount Sinar and Mount Athos. A later visitor to the monks of Mount Athos, on making it known that he was an Englishman, was asked among the first questions, "How is Philippos?"

Nearly 4,000 people were present on Christmas Day at the services in the Protestant Episcopal Cathedral at Dublin, which is now supported by voluntary contributions, and the clergyman was not a little astonished to find the total of contributions was less than \$40, or not an average of a cent for each person present. Before the congregation left the building they had a piece of the clergyman's

At Aleppo the favorite place for the disposal of city refuse is said to be the Protestant cemetery, in which are buried the late George Smith, the Assyriologist, and the travellers Mandrell and Burckhardt. A recent visitor writes to a friend in England that he found two dead dogs near the grave of Mr. Smith, while near the graves of Mandrell and Burckhardt the decaying carcass of a camei was encountered.

It has been resolved to melt the old church bells in St. Peter's, at Zarich, and to cast new ones from the old metal. One of the set, however, known as "Schlaggeocke" was cast in 1294, and is, therefore, fifty-seven years older than the union of Zarich with the swiss Depublic, which took place in 1251 | Effect. Republic, which took place in 1351. Efforts have been made by the Antiquarian Society to save the bell from destruction, and they

During the few months in which Dr. Lorriher has been settled over the First Baptist hurch of Chicago, 115 persons have been added to the church membership, a mortgage has been virtually lifted, and an income of \$10,000 a year has been secured. Although the church is situated on the outskirts of the city many people are turned away from its doors every Sunday for want of room inside.

The late Dr. Ide, of Midway, Mass., aged as the was, was not the oldest Congregational minister in this country after all. The Rev. numster in this country after all. The Key, Dr. S. Parmelee, of Oswego, now in his ninety-minth year, was installed in Vermont one year before Dr. Ide was graduated from Brown University. Dr. Parmelee has preached for more than sixty years, and is still in excellent health for a man whose life will soon span a fall century. full century.

In three years Dickinson College, Carlisle, Penn., will be one hundred years old, and it is urged that now is a proper time to seek fer it a liberal endowment. The alumni have in preparation a gift of \$25,000, but the rich men of the Methodist denominations in Baltimore, Philadelphia and elsewhere within the circle of Dickinson, are looked to for a much

David Macrae's new church at Dundee, Scotland, will have to be built after much larger plans than those which were first prepared for it. Several recent additions to its membership have made this necessary. On a recent Sunday 114 new members were admitted, making the total of communicants alone 1.100.

Switzerland, have asked the city council offi-cially to suspend all trade on Sunday. They have been led to take the step by the increasing number of open shops. The practice was begun by a few, but others have since felt compelled by business interests to follow their Sir Moses Monteflore, now in his ninety-

Nearly five hundred shopkeepers in Zurich,

Sir Moses Montenore, now in an americant sixth year, was recently presented by the parish of St. Luke's at Ramsgate, England, with a handsomely bound volume of the Old Testament in Hebrew and English, as a recognition of his great charity for many years to the poor of Ramsgate and its neighborhood. The clergy of Silesia and the diocese of Cologne have presented to the Minister of Public Worship in Germany two petitions, one of which is signed by 800 names and the other by 1,400, demanding the restoration of the rights of the Church in all that concerns the

direction of religious education. Job Turner, a deaf mute living near Richmend, Va., has been preparing for the Episcopal ministry during the past two years, and last month be was admirted by Bishop Whitte to the order of deacons. The Rev. Dr. Gallandet, of this city, was present at the ceremony.

Now that Mr. Spurgeon's health has so much improved that he expected to start from Men-ton for England on the 2d of February, word comes that Mrs. Spurgeon has been extremely

Extremists in the Referenced Episcopal burch hold that the office of bishop should be limited to ren years, after which, if not relected, each bishop should return to the ranks

Among the private audiences recently given by the Pope was one for Moasignor Hostlor, who was the bearer of 60,000 francs in gold from Cardinal McCloskey. There are eight Reformed Episcopal churches

in Chicago and ten ciergymen. Two of the charcles own property valued at between \$75,000 and \$100,000, and are free from Both Bishop and Mrs. Whipple, of Minne-

sota, are out of health, and will soon go to Florida to regain it. CURRENT RELIGIOUS OPINION.

"LITTLE AMONG THE THOUSANDS" STILL

"LITTLE AMONG THE THOUSANDS" STILL.

From The Boston Congregationalist (Cong.)
It is often a noticeable circumstance that when a Congregational minister leaves his denomination and goes over to the Ediscopal Church, he is apt to think himself only the centre of a ground swell which is soon to land a great multitude of his former brethren near the place where he now is. We have watched this process for many years, but we find, as a matter of fact, that the Episcopal Church in thus country still remains "little among the thousands of Judah," numbering about 3,000 local parishes of the nearly 60,000 Protestant churches, of all denominations, scattered over the broad land. Moreover, we do not discover, by glancing back over the last twenty years, that the relative growth of the Episcopal Church is at all beyond that of other denominations.

A VERDICT ON MR. COWLEY.

From The Next Fork Christian Intelligences (Reformed).
Dotheboys Hail is outdone. The Rev. Dr. Cowley—he insists upon the D. D. (probably signifying Doctor of Deviltry)—opens a "Shepherd's Fold" in New York, with a free use of the names of "Bishops and other clergy" where he gathers in a flock of lamos, who soon shudderingly detect the woll's cars and eyes and mouth under the sheep-skin. For a long time he succeeds in pailing the wood over the eyes of "visitors," as well as over his own bloody chops. And he and his annuable spusse go on nurturing the children on thimble-fulls of bean soup and corn meal with plenty of pickled rods and an occasional dose of ipecae to keep down an anhealthy appetite. But at length Messis, Bergh and Gerry had him ont, and he goes to the Tombs, where he straightway calls for a Bible and prayerbook in his cell and sits a blessed martyr, like the rest of our pleas frauds of the present day.

present day.

Documents Purchased by the Pope.—In spite of the depieted condition of his Treasury, Leo XIII. has recently expended several thousand finance in the purchase of a series of important documents for the Archives of the Vatican. Among the number are said to be autograph and unedited letters of Cardinals Farnese, Spondrati, and Palo, besides several of the Tridentine Father. There are also letters from samted personages, a valuable lot of letters pertaining to Church history in the last century, and a considerable number of others which illustrate that of the sixteenth and sevententh.

Dr. Duncombe, Dean of York, is dead. A storm of opposition was raised at the time of his appointment, but he lived to more than overcome it by a most generous and exemplary career in office. To charity he gave large sums, at his table proctors gladly assembled from the most distant parts of the Province, and to all the services at York Minster he gave his own personal attentions. He was well known for his liberal and intense interest in the restorations of Yorkshire churches, and particular in that of York